McGill Daily

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SCIENCE FLYER MISSING AFTER BATTLE IN AIR

Flight Sub-Lieutenant J. P. White, Science '18.

MAJOR LUCAS KILLED.

Lieut. B. Elmo Atkins, Arts '13, Falls in the Advance on Bagdad.

Flight Sub-Lieutenant James Percy White, Sci. '18, of the Royal Naval Air Service, is officially reported as missing, according to information which reached the University last night. Flight Sub-Lieut. White is presumed to have failed to return after one of the recent aerial engagements on the western front, where he was stationed with a unit of his corps. Flight Sub-Lieut. White left the University to take a course in flying in Florida, and when the school there closed he returned to Canada and finished at the aviation school at Toronto. In February, 1916, he went overseas and made such a good name for himself in the examinations in England that he was retained at Eastchurch as an instructor in bombing. Following this he went to the north coast of Scotland, and two months ago he was sent to France. Flight Sub-Lieut. White is a son of W. G. White, Winnipeg, and attended the Collegiate Institute there before coming to McGill.

Major F. Travers Lucas.

Among the Canadian officers who lost their lives in the disastrous operations in which the Canadians participated last week was Major Frederick Travers Lucas, a graduate of McGill, and of the Royal Military College, Kingston, who went overseas with the 54th Battalion, C.E.F., and who had been in France for some time. Born at Hamilton, Ont., on February 20, 1883, Major Lucas attended school there, matriculating into the Royal Military College, from which he was graduated in 1903 as third in the class. The same year he came to McGill and entered Fourth Year Science, being graduated in 1904 with high honours. Major Lucas was a brilliant scholar, and a splendid athlete.

After leaving McGill, Major Lucas became connected with engineering enterprises in various parts of the country, more particularly in the West, where he was engaged on the construction of the Grand Trunk Pacific Railway. He was residing at Prince Rupert, B.C., when he enlisted not long after the Canadian contingent was authorized.

As an athlete Major Lucas enjoyed considerable reputation, and was a cricketer of international fame. He was the second son of R. A. Lucas, Hamilton. A. S. B. Lucas, Sci. '03, is a brother.

Lieut. B. Elmo Atkins.

The first McGill man reported a casualty in the recent fighting in Mesopotamia is Lieut. Basil Elmo Atkins, Arts '13, who is reported killed in action in the successful advance of the British to Bagdad. Lieut. Atkins was serving with the 7th Battalion, North Staffordshire Regiment, B.E.F., to which he was transferred after he was wounded at Gallipoli in January, 1916. At that time his regiment covered the retirement from the peninsula, and suffered heavily. After convalescence, Lieut. Atkins rejoined his regiment, and not long ago was sent to the Mesopotamian front. Lieut. Atkins was at Oxford studying when war broke out, and immediately entered upon a course of training which fitted him for a commission in the army. He was attached to the Yorkshire Regiment, and went through some fighting with this unit before being transferred to the Staffords.

Lieut. Atkins was the son of J. M. Atkins, Vancouver, B.C., and was born in that city on October 10, 1892. He was a brilliant student, and was graduated from McGill with honours.

Lieut. William C. Ross.

The Victoria Colonist has the following concerning Lieut. William C. Ross, Arts '15, recently wounded:—

"Lieut. Ross has many friends in the city who will anxiously await furthur word relative to his casualty. He is 22 years of age, and has now been at the front for several months. In view of the fact that he has been filling the hazardous position of officer in charge of snipers for his battalion, it is somewhat remarkable that he has managed to remain unscathed so long, as his duties naturally brought him constantly into the open and within range of the enemy sharpshooters.

"At the outbreak of war he was in the East taking a university course, and he immediately took an officers' training course at McGill, returning to Victoria after securing his certificate to join the 50th Gordon Highlanders. After being accepted by this unit he subsequently transferred to the 72nd Seaforth Highlanders in Vancouver, and it was with that corps that he left for overseas service. He was an excellent shot, and his prowess in this connection was soon recognized. He was put through a special marksmanship course at Aldershot, and placed in charge of the snipers after the 72nd Battalion had become a part of the 4th Division in France.

"Lieut. Ross received his education here at the Collegiate School, where he distinguished himself as an all-round athlete. His brother, Lieut. H. McKenzie Ross, was formerly with the 50th Gordon Highlanders, and went across as a member of the 103rd Battalion under Lt.-Col. E. C. Henniker."

FRENCH GOVERNMENT HONORS PROF. SMITH.

In celebrating, by a banquet at the Ritz-Carlton Hotel on Monday night last, the fifteenth anniversary of the Montreal group of the Alliance Francaise, occasion was given many speakers of reviewing the success attained in that time to indicate how the entente cordiale between France and the British Empire stood, and to praise the beauties and perfection of the language which the efforts of the Alliance are consecrated to furthering. The occasion was further made memorable by the fact that Mr. C. E. Bonin, Consul-General for France in Canada, used the occasion for making Mr. R. C. Smith, K.C., D.C.L., LL.D., Professor of Commercial Law in the Law Faculty of McGill University, an Officer de l'Instruction Publique. At this meeting of the Alliance Francaise Sir William Peterson, Principal of McGill, among others, also spoke.

NOVEL HONOR ROLL FOR THE SCI. FACULTY

Will Place Panels in the Engineering Building.

TABLET AFTER WAR.

750 or 800 Names Will be Placed in Conspicuous Position Near Entrance.

A token of respect to the men who are serving with the colours overseas, and to those who have made the supreme sacrifice, is soon to adorn the walls of the Macdonald Engineering Building. At the suggestion of Professor E. Brown, the Science faculty some time ago decided that there should be some sort of memento to the large number of McGill graduates and undergraduates who are fighting for King and Country. A committee, consisting of Professors Brown and Traquair was formed to undertake the establishment, and they have been at work on this task for some time.

Surrounding the stairs in the Engineering Building is a moulding which was found to be admirably suited for the location of the Roll of Honour, and it was here that the Committee decided would be the most preferable place to hang the frames. In this way the names will be visible to all who ascend or descend the stairway.

The walls of the entrance are of a light brown colour, and to blend with this the Honour Roll was made of large panels, coloured to suit their background. The lettering is over one half inch in height, and brown in colour, while the cards on which they are mounted are cream. The nicety to which these frames will adapt themselves to their environment will be most striking. The work of Martel Stewart and Company, who have been given the contract, is a marvel of excellence.

In all, some twelve frames will be necessary to contain the names of the seven hundred and fifty or eight hundred Science men who have enlisted. Each panel will contain in the neighborhood of sixty-five names, and will give the year, rank, unit and distinctions won. The first panel will contain the names of the Faculty members, following which will be the graduates and then the undergraduates.

An immense amount of energy has been spent on making the lists as complete and as accurate as possible, but it may be that there will be some corrections and omissions to be made at a later date. It was the endeavor of the Faculty to give prominence to the men who are doing their share rather than to make the panels of a permanent nature. At a future time a brass tablet will be erected in memory of the men, but the present lists will serve the purpose for which they were intended, and possess the added feature that corrections and additions may be made with perfect harmony to the other panels.

The first allotment of four or five panels will be received from the Martel Stewart Company this week, and will be placed in their positions immediately. The remainder will be added before the end of the present month.

It is the wish of the Faculty that any who observe inaccuracies communicate with the office of the Dean, that the lists may be made as accurate as possible.

STUDENTS' COUNCIL.

The Students' Council will meet in the Union at 7.30 o'clock this evening. Routine business will be discussed.

SALE OF TICKETS FOR SUPPER CLOSED.

The sale of tickets for the Arts Smoker-Supper is now closed. Absolutely no tickets will be sold at the Union this evening.

SLAVS ARE NOT THE BARBARIANS HUNS CALL THEM

Have Great Future Possibilities, Says Dr. Colby.

SUPPLENESS OF MIND.

Tsardom is Discussed in Latest Lecture of Europe-at-War Series.

In Monday's lecture Dr. C. W. Colby made an alteration to the printed programme of his Extension Course on the present World War and the problems it raises. Instead of taking up the question of compensations to France, Russia, Italy and the British Empire, he began the discussion of a most interesting, though generally neglected topic, that of Russia and the Tsardom.

Opening his subject with the following quotation: "The past belongs to the Latin, the present, to the Germans, and the future, to the Slavs," the lecturer remarked that although too simple and incisive to be taken very seriously, these words contained, nevertheless, a great deal of truth, and called one's attention to the great future possibilities of the Slavs as a factor in politics as well as in civilization and progress in general.

Dr. Colby then distinguished between Pan-Germanism and Pan-Slavism, showing that, while Pan-Germanism was a thirst for domination and was associated with brutal methods as a means to achieve its aims, Pan-Slavism, on the contrary, was rather peaceful and even poetic in its character. The Pan-Slav movement has not been created by the Russians in order to dominate and exploit the smaller Slavonic nations (as the Prussians are doing among the Germans at the present time), but it took its rise in Prague, and its promoter as well as its poet were both Czechs, being respectively the well-known historian Francis Palacky and the author of "The Daughter of Slavia," John Kolar, Pan-Slavism, then, rather aspires at liberation than at domination. Its object is to ensure the free development of the various Slavonic branches along racial and national lines.

As an excellent interpretation of Russian ideals the lecturer referred his audience to Prof. Vinogradoff's letter to the Times, entitled "Russia, the Psychology of a Nation," and which has since been published as one of the Oxford Tracts. In this letter the writer shows that Russia's temperament is not aggressive, and that, although she possesses far greater resources in almost every direction than most other nations, yet she is not really a danger to the peace of Europe, since there is ample "reason to believe that improvement rather than expansion is what means most" to the Russian people to-day.

Slavs Not Barbarians.

Although the Slav nations have not, as yet, attained to the highest level of modern civilization, yet they are far from being composed of mere barbarians, as the Germans and Hungarians would have it. Even if we do not take into account their achievements in the past and their brilliant literary productions, we can discover, in the Russian character, certain features which reveal a considerable mental capacity and intellectual development. Maurice Baring, Prof. Miliukor, the late Mr. Leroy Beaulieu, and others, all think that the "keynote of Russian character" is found in its "plasticity," or "all-humanness," which makes it lack "the cement of hypocrisy." This quality is found even in the Russian peasant, and is prominent in the Russian workman who is "quick in understanding what is needed of him, and versatile in his power of being able to turn his hand to different trades." In fact, the "suppleness of the mind of the Russian in general" is astonishing; he grasps a new thing with wonderful facility and, in this respect, differs widely from the German. To this plasticity of mind the great Russians add remarkable common-sense, shrewdness and self-possession, and all these qualities justify us in thinking that the Russians will accomplish great things once they are given the chance.

Much has been said and written of late about the mysticism and almost excessive religiosity of the Russians. As a matter of fact, this undeniably great characteristic of a great nation has been a little too much insisted upon and exploited by men like Stephen Graham.

After this necessary introduction, Dr. Colby came to his subject proper, namely, the Tsardom, and said that, although such an institution could not work in Western Europe, it would never have become established as it has "were it not for the fact that it has rendered a service of immense value in times past to the Russian people."

To explain the relative backwardness of the Slavs as a race we may first of all remark that they have almost always been cut off from the Mediterranean, a fact which deprived them of an immense educational advantage. Whatever of ancient civilization reached Russia, for example, came to her by way of Constantinople, and Constantinope was more of an Asiatic city than anything else, and had completely lost the spirit of pro-

(Continued on Page 2.)

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"IT IS TO LAUGH."

Peculiar and laughable mistakes are made by many of our brothers in the field of College Journalism through a little want of care. We have been collecting many of these, and we quote a few of the gems below. Here is one from "The Red and Black," a paper published by the students of the University of Georgia. Where the information in regard to the attendance of the various years was obtained is a mystery to us. The clipping follows:—

> "At the University of McGill they have organized a 'Rooters' Club,' which is to compose the crack rooting section at all of McGill's games. This club has to practice once a week, and even at that they are not as efficient as they wish to be. Some of the stunts which they pull off are in the guise of Glee Club entertainments, while their illustrations are very good. Freshmen are required to attend these meetings and become members. 'Sophomores are urged to come and the Juniors and Seniors belong, if they want to."

We have heard of quite a number of war decorations from the Victoria Cross at the head of the list, to the Iron Cross at the very lowest level. The Daily Illini of the University of Illinois has discovered an English "War Cross," of which C. A. Johnson is the proud possessor. This is the notice referring to the matter:

> "**McGill.**—C. A. Johnson, formerly football captain at McGill University in Canada, was decorated with the English War Cross for active service at the front. He managed to take sixteen Germans as prisoners single handed."

The Daily Californian also is a treader in unknown paths. The editors at the University of California have succeeded in unearthing the "Honorary Medal," of which "Medal" we have no less than 15 recipients (according to them), at McGill. Witness the following:

> "Over forty per cent of the men who entered McGill University, Canada, with the 1917 class are now serving with the armies of England. Of this number fifteen have received the honorary medal and more than thirty have already given their lives for their country."

Then there is the usual libel. We have been accused of many a thing which we have passed over in silence, but again we turn to the Daily Illini for the latest slap at our dignity. We are sure that the little note printed below will explain our outraged feelings:

> "**McGill.**—The gate receipts from the basketball and hockey games at the Toronto institution are being used to provide comforts for the Canadian students at the front 'Somewhere in France."

The Dalhousie Gazette, in a review of the field of College Journalism, has the following to say of us:

> "The next two years (1874-5) saw the beginning of the now pretentious McGill Daily."

Like the man who was asked to change a ten dollar bill we say, "We can't do it, but thank you for the compliment just the same. The newspaper, McGill Daily, is but six years old, and a fine healthy child, thank you.

PLAGIARISM.

Webster defines Plagiarism as "the act of purloining the writings of another and passing them off as his own—literary theft." We have not called attention before to a state of affairs that has been in existence for the past four and a half months,—we refer to the practice of at least two of the city newspapers in clipping articles verbatim from McGill Daily, and running them as their own news items without giving this paper any credit in the matter. We didn't mind one or two transgressions, but when it became a day-in and day-out affair we began to grow tired of it. McGill Daily has distinctly "scooped" the city papers on a number of occasions, and with stories that were by no means merely of College interest. Quite blandly one paper, in its Noon editions, clips a story in toto, puts a two column heading on it, and there you are: one cent, mister, and the red ink is thrown in for good measure. It was laughable on two occasions when typographical errors had been made in McGill Daily, this particular paper printed the articles and the exact same mistakes appeared. Once we were given credit for a statement, but that was because the paper quoting us was afraid the story wasn't true, and not having the energy to verify it, decided that, should there be any blame, it would be wise to let it fall on our shoulders.

Just because McGill Daily is a College newspaper, and has a small circulation, is no reason for our big brothers (although, to tell you the truth we are ashamed to belong to the same family that some of the "rags" do) to forget the rudiments of courtesy which are a component part of every true journalist. We are awaiting with no little interest to see Friday's issue of a certain paper. McGill Daily will have ceased publication, and if the war stopped at the same time our disrespected "shadow" would have to go out of existence or instill a little energy into the personnel of its staff.

YEAR '17 MEETING.

There is a meeting of the year '17 in Strathcona Hall this afternoon at 5 p.m., and every man who is in the graduating year should make it a point to attend. It isn't a question of "Oh, the others will go, so there is no need of me." Every one is wanted. Matters of really vital interest will be dealt with, matters which concern all those in '17. See that you are over at the Hall this afternoon.

ILLINOIS' FINE BUILDINGS.

The University of Illinois is at present erecting three buildi s, and a fourth is being remodelled at a cost of $30,000. These buildings represent the beginning of a large building programme planned for the next ten years. K. U. students who have seen the buildings on the campus at Urbana say that the finest building here resembles the smallest at Illinois.

ROWING IS INJURIOUS.

The University of Wisconsin will not be represented at the intercollegiate regatta on the Poughkeepsie course this year, the Athletic Council having refused to consider the re-establishment of rowing on the grounds that the training for the races affected the hearts of students.

GIFT TO CHICAGO.

A gift of $1,500 annually for five years was announced by President Judson, of the University of Chicago. This fund is to be used for an annual series of public lectures, and is the gift of a young alumnus of the University who does not want his identity revealed.

SLAVS ARE NOT THE BARBARIANS HUNS CALL THEM.

(Continued from Page 1.)

gress and initiative which characterized Greece or Rome at their best. Even the Church—"then the great teacher of the world"—had lost all independence and had become the slave of the State.

Institution of Tsardom.

"On the side of politics the Russians"—greatly again on account of the bad example set to them by Constantinople—"have suffered from the lack of that discipline which came to the nations of Western Europe from the survival of the Roman tradition." To this must be added, perhaps, a certain lack of capacity for orderly government, as the sad experience of Poland would seem to prove. "Russia, on the other hand, saved herself from anarchy, but only at the cost of submitting to despotism," through the institution of Tsardom.

After these general statements Dr. Colby passed to a brief review of the great landmarks of Russian history, the most important of which he placed around 1400, when Moscow became "the pivot of national life." Before that period Kiev and Novgorod had been the two chief centres of Russian life. Russian history may be made to begin in the ninth century, when the Varangians, or Scandinavians, made their appearance on the banks of the Dniester. According to Nestor, an embassy was sent to Scandinavia in 862 with the following message: "Our land is great and fruitful, but there is no order in it. Come and rule and govern us." Answering to this invitation Rurik, Sineus and Truvor came and ruled over the Russians. This is perhaps only a legend, but it is characteristic in so far as it shows the inability of the Russians to govern themselves.

During this early period two facts stand out prominently: the great influence of Scandinavia over Russia, and the growth of prosperous commercial towns along the banks of the great rivers.

In the early part of the thirteenth century, however, "this primitive civilization suffered a dreadful blow from the eruption of the Tartars." Many of the Russian princes had to acknowledge the suzerainty of the Zenghis Khan and his successors. Here, as against the Turks later, the "Slavs formed a buffer betwen Asiatic savagery and the rapidly advancing civilization of Western Europe."

Russia's Real Rise.

But, as we have stated above, in the early part of the fifteenth century, Moscow began to assume a preponderating influence among the Russian cities. This came as a result of the successful rebellion of its princes against the Tartar conqueror. But the real rise of Russia began with Ivan the Terrible (middle part of sixteenth century)—a ruler of great talent and popular with the masses, but suspicious by nature and arbitrary in his methods—who crushed the rising power of the Boyars, or Russian nobles. His work was largely jeopardized, however, during the period of anarchy which followed in the early years of the seventeenth century, and in the course of which Sweden and Poland extended their frontiers at the expense of Russia.

A new Tsar was at last elected by a national assembly in 1613, and order was restored. This was Michael Romanov ,the ancestor of the actual reigning family. Although Michael and his son Alexis proved successful rulers, in the third generation only did the Romanovs produce a man of genius in the person of Peter the Great, who gave Russia her place among European nations. His victory over Charles XII. of Sweden is one of the brilliant episodes of Russian history. Catherine II.—"the outstanding Empress of the eighteenth century"— perfected his work by vastly extending the limits of the Empire at the expense of Poland and Turkey, so that, at the time of Napoleon, Russia had risen to a very high rank indeed, as far as military strength was concerned, among the European nations. In fact, it was Russia that caused Napoleon's downfall.

Dr. Colby then concluded by saying that he would pursue the study of this subject in the course of his next lecture.

WITH RESERVE BATTALION.

Lieut. Henry P. Lovell, past student, who was wounded while in France with the 16th Canadian Scottish, has been attached to Lieut.-Colonel Snider's Manitoba Reserve Battalion at Shorncliffe, after having been stationed for some time at Bramshott. Lieut. Lovell's home is in Coaticook, Que.

ALMA MATER.

Empty class-rooms, echoing halls,
Laughter gone from the dim grey walls,
Mother, on thee the shadow falls,
Where are thy sons, McGill?

Roaring cannon, scattering shell,
Days of horror, nights of fear,
Heaps that were men until they fell,
Thy sons, McGill, are lying here.

Not there, not where they nobly died,
Not sprawling by some trench's side,
But here, in their brothers' love and pride,
In the heart of old McGill.

I. J. P.

TO FRANCE ON DUTY.

Lieut.-Colonel R. deL. Harwood, Med. '95, who went overseas as officer in command of the 51st Battalion, C.E.F., has been sent to France on duty, according to advices from England.

LAW DINNER SURPLUS.

The Committee in charge of the Law Dinner held recently has turned over $3.57 surplus to the Treasurer of the Law Undergraduate Society. It will be remembered that some doubt was expressed at the time as to whether a dinner to compete with that held in other years could be secured at $1.50 per plate. General satisfaction was evidenced at the banquet as to the arrangements made, and the surplus points to its success financially.

JOINS AIR SERVICE.

Flight Sub-Lieutenant William Johnston, formerly of Sci. '19, leaves to-day for Ottawa, where he is to join a draft which is going overseas in a few days, to take up work with the Royal Naval Air Service. Lieut Johnston was secretary of the Railway Club last session.

WAR LOAN

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The instalments may be paid in full on the 16th day of April, 1917, or on any instalment due date thereafter, under discount at the rate of four per cent per annum. All payments are to be made to a chartered bank for the credit of the Minister of Finance. Failure to pay any instalment when due will render previous payments liable to forfeiture and the allotment to cancellation.

Subscriptions, accompanied by a deposit of ten per cent of the amount subscribed, must be forwarded through the medium of a chartered bank. Any branch in Canada of any chartered bank will receive subscriptions and issue provisional receipts.

This loan is authorized under Act of the Parliament of Canada, and both principal and interest will be a charge upon the Consolidated Revenue Fund.

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In case of partial allotments the surplus deposit will be applied towards payment of the amount due on the April instalment.

Scrip certificates, non-negotiable or payable to bearer in accordance with the choice of the applicant for registered or bearer bonds, will be issued, after allotment, in exchange for the provisional receipts.

When the scrip certificates have been paid in full and payment endorsed thereon by the bank receiving the money, they may be exchanged for bonds, when prepared, with coupons attached, payable to bearer or registered as to principal, or for fully registered bonds, when prepared, without coupons, in accordance with the application.

Delivery of scrip certificates and of bonds will be made through the chartered banks.

The issue will be exempt from taxes—including any income tax—imposed in pursuance of legislation enacted by the Parliament of Canada.

The bonds with coupons will be issued in denominations of $100, $500, $1,000. Fully registered bonds without coupons will be issued in denominations of $1,000, $5,000 or any authorized multiple of $5,000.

The bonds will be paid at maturity at par at the office of the Minister of Finance and Receiver General at Ottawa, or at the office of the Assistant Receiver General at Halifax, St. John, Charlottetown, Montreal, Toronto, Winnipeg, Regina, Calgary or Victoria, or at the Agency of the Bank of Montreal, New York City.

The interest on the fully registered bonds will be paid by cheque, which will be remitted by post. Interest on bonds with coupons will be paid on surrender of coupons. Both cheques and coupons, at the option of the holder, will be payable free of exchange at any branch in Canada of any chartered bank, or at the Agency of the Bank of Montreal, New York City.

Subject to the payment of twenty-five cents for each new bond issued, holders of fully registered bonds without coupons will have the right to convert into bonds of the denomination of $1,000 with coupons, and holders of bonds with coupons will have the right to convert into fully registered bonds of authorized denominations without coupons at any time on application to the Minister of Finance.

The books of the loan will be kept at the Department of Finance, Ottawa.

Application will be made in due course for the listing of the issue on the Montreal and Toronto Stock Exchanges.

Recognized bond and stock brokers having offices and carrying on business in Canada will be allowed a commission of three-eighths of one per cent on allotments made in respect of applications bearing their stamp, provided, however, that no commission will be allowed in respect of the amount of any allotment paid for by the surrender of bonds issued under the War Loan prospectus of 22nd November, 1915, or in respect of the amount of any allotment paid for by surrender of five per cent debenture stock maturing 1st October, 1919. No commission will be allowed in respect of applications on forms which have not been printed by the King's Printer.

SUBSCRIPTION LISTS WILL CLOSE ON OR BEFORE THE 23rd OF MARCH, 1917.

DEPARTMENT OF FINANCE, OTTAWA, March 12th, 1917.

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MR. W. J. FRANCIS TO BE GUEST AT SCI. DINNER

Prominent Canadian Engineer Has Been Secured to Attend the Annual Function.

Definite arrangements have now been made regarding the Science dinner which is to be held on Monday, March 19th, at the Windsor Hotel. Mr. W. J. Francis, a well known and eminent Engineer, and a prominent member of the Canadian Society of Civil Engineers, is to be the guest of honour for the evening. Mr. Francis was a member of the Committee which reported on the Aqueduct for the City of Montreal. Recently he was appointed a member of the Hydro-Electric Commission for the Province of Ontario. The executive consider themselves extremely fortunate in being able to secure a prominent Canadian Engineer for the occasion, and the undergraduates will no doubt be thankful to the executive for their endeavour.

All those who have previously signified their willingness to support the dinner have not as yet secured their tickets, and it is the desire of the Executive that they do so without delay. Tickets may be secured from A. S. Poe, E. W. Campbell, L. J. Jordan or J. D. King.

LT. ABBOTT-SMITH SICK .

In a letter received by one of his friends in the University, Lieut. R. B. Abbott-Smith, Sci. '17, who is now serving on the British Saloniki Force, with the Second Battalion of the Buffs, stated that he had been taken down with scarlet fever while in the trenches, but that he is now convalescing. Lieut. Abbott-Smith left McGill in April, 1915, proceeding to England, where he obtained his commission, on the ill-fated Lusitania. He has been in continuous service since January, 1916, until his recent sickness.

PATHÉ

Mrs. Vernon Castle as Patria Channing in PATRIA

Never in the history of motion pictures has a Serial attracted such wide-spread attention. Society Leaders in every large City have endorsed "PATRIA."

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Ask for Gurd's Drinks at "The Union," "The Club," "The Fraternity,"—and from "Your Home Purveyor."

ARTS SMOKER AND SUPPER AT UNION.

To-night, at 8 p.m., a hundred Arts men will gather at the Union for the great event of the year, the Arts Smoker-Supper. The executive, after much effort, has ready an entertainment that will be second to none held in the University this year. Joyce, the well-known Montreal caterer, will supply the supper, which will be of first rate quality, and quantity. This supper will be served in the Union dining room at 10.30 p.m., after the Smoker in the lounge room. From 8 p.m. until that time those present will be entertained in a most lavish manner. E. A. Corbett, M. G. Brooks, P. Pressner, G. E. Tremble, H. C. Suter, R. Badger, and the McGill Orchestra will be the talent who will make this evening long remembered by those who are present. In addition, there will be plenty of tobacco and cigarettes for all. Nor is this all, for after the Supper impromptu toasts will be drunk to our Alma Mater, to our Professors, and to the Boys at the front.

UNION HOUSE COMMITTEE.

The Union House Committee will meet in the Union at five o'clock this afternoon for the discussion of routine business. The date of the annual meeting of the Union will be selected.

TRENCH WARFARE COURSE.

Lieut. P. S. Hunter, Arch. '17, who was invalided to England suffering from shellshock, has been selected to attend a course at the Canadian trench warfare school at Crowborough. Lieut. Hunter went overseas with the 55th Battalion.

OPPORTUNITY FOR GRADS.

An opportunity to enter the student engineering course of the General Electric Company, Schenectady, New York, has been offered to the graduates of the present year from the College of Mechanics of the University of California. The plan is that students who enter the company will work in the testing department, in which is given a maximum of experience in a minimum of time. Thus students can be shown the construction of the electrical machines tested.

BRITAIN— CALLS TO CANADA—

THE FACTORY THE FARM

She must have Food—

for her Armies in the Field—for her Workers in the Factory—in the Munition plant—in the Shipyard—in the Mine.

THERE'S DANGER IN SIGHT—BUT YOU CAN HELP

DO YOU KNOW—
that the rapidly rising price of food stuffs means that the World's reserve supply is getting small?

DO YOU KNOW—
that a world-wide famine can only be averted by increasing this supply?

DO YOU KNOW—
that a "food famine" would be a worse disaster to the Empire and her Allies than reverses in the Field?

YOU CAN—
help thwart Germany's desperate submarine thrust on the high seas.

YOU CAN—
do this by helping to make every bit of land in Canada produce—the very last pound of food stuffs of which it is capable.

AND REMEMBER—
that *no man can say that he has fully done his part*—who having land—be it garden patch, or farm, or ranch—fails to make it produce food to its utmost capacity.

THESE FARM PRODUCTS ARE NEEDED FOR EXPORT

WHEAT, OATS, BEEF, BACON, CHEESE, EGGS, BUTTER, POULTRY, BEANS & PEAS, WOOL, FLAX AND FLAX FIBRE, DRIED VEGETABLES

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Canada to Britain - - - - - - 2625 MILES

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"No matter what difficulties may face us, the supreme duty of every man on the land is to use every thought and every energy in the direction of producing more—and still more."

Martin Burrell—Minister of Agriculture.

The Department invites every one desiring information on any subject relative to Farm and Garden, to write—

INFORMATION BUREAU

DOMINION DEPARTMENT OF AGRICULTURE

OTTAWA

SCIENTIFIC MANAGEMENT AND EFFICIENCY.

(Continued from Page 4.)

nose tool with 1-16" feed; his feed efficiency is 25 per cent. He takes three roughing cuts and one finishing cut where he could have taken just one roughing and one finishing cut; his depth of cut efficiency is about 50 per cent. His over-all efficiency then is

.50 x .40 x .25 x .50 = 2.5%.

not three per cent. This efficiency is absurdly low, and, if it was repetition work, the loss to a company would be enormous at the end of a year.

There are thousands of other cases of inefficiency other than machining and amongst skilled labour. Even unskilled labour, such as shovelling, can be done scientifically. It has been found that twenty-one pounds is the right load for efficient shovelling. Hence a certain company had special shovels made for each class of work, such as slag, coal and ash shovelling. No sane person would think of using the same shovel to lift twenty-one pounds of snow as he used for the same weight of coal. He would not be able to get it on.

We have seen that inefficiencies exist, and that there are simple methods of elliminating them. It now remains to show how efficiency is applied in the every day running of a plant.

There is the great, outstanding feature of scientific management that is seldom, if ever, found in any other form of management, that of the planning department. It has been mentioned in the earlier part of this paper that one cause of "soldiering" was due to the lack of having enough work planned ahead for the workman to go straight on with. All danger of this is avoided by this department.

The duties of the department are numerous, and require a large staff of superintendents and clerks. There are those who plan the work ahead a day, a week, or even a month for each individual workman, and hand it out on instruction cards when the time arrives for the work to be done. Then there are the timekeepers who keep account of the work as it is done. They let the workmen know how they are getting on, and how much they have earned from time to time, encouraging those who lag behind to catch up and those that are doing well to greater effort. The clerks keep a close watch on the men and weed out the ones that are not suited for the work (scientific selection of men), these men being given work for which they are better suited. Again, there are engineers in the department who are standardizing conditions and operations, and planning out the schedules and routing systems. This department involves a great deal of extra clerical work, which means an added expense to the company, but for all that it more than pays for its maintenance.

The department acts through the medium of a number of different foremen, known as functional foremen. The first of these is the teacher (inspector), whose duty it is to see that each man understands the drawings, and that he does the work to the right quality—fine if required fine, rough if that is all that is necessary. The second or gang foreman teaches him to set his work up correctly, and to use the quickest and best motions, that is, to follow the instruction card. The third man, the speed foreman, sees that the right tool and speed is used as given on the instruction card, so that the work can be finished in the shortest time. The next foreman, the repair boss, is responsible for the care, cleanness and adjustment of each machine. The fifth and sixth are the time and routing clerks. And the seventh is the disciplinarian, who is on hand in case a man gets into trouble with his boss.

There is very little teaching where the work is repetitioned. The first two functional foremen have only to deal with new hands in this case, and to help those that are lagging, or, if the process is altered, to instruct the men in the new method.

From the planning department we come to the cost department. There is very little to say about this department, as nearly all modern industrial plants have a more or less good one, even though they may not be under scientific management. The idea is to mention it as a very necessary acquisition to the plan of scientific management. As a rule a factory is divided into departments, which each do a certain line of work. When any repair work is done or a new machine made for a department, the work and material expenses are charged up against the running expenses of that department to determine whether it is paying. It is, therefore, necessary to keep careful account of costs in the cost department for this reason, and so that there will be a full inventory of the assets of the company.

We will not go any further into details.

Work and Wages.

All the preceding discussion on planning departments, cost departments, the efficient utilization of labour and the art of the economic cutting of metals is of no avail unless the workman can be prevailed upon or induced to follow instructions. A man will run a great many dangers and slave in a "sweat shop" if he is guaranteed a substantial reward. Hence we come to the question of labour and wages.

There are three different ways of paying a man, either by the day, or by the piece (piece work), or by setting him a definite task at a fixed rate and giving him a bonus if he completes the task (task and bonus). One has to use his own judgment whether one or the other should be used; but, where either one of the three can be used (which is most often the case), the task and bonus system certainly surpasses the others as being the most beneficial to the employer and employee alike. There is more harmony.

To begin with, if day labour is used where either of the other methods could be applied just as readily, there would be scarcely 50 per cent. the output as with piece work, and 40 per cent with the task and bonus. The reason for this is simply that the men have no incentive to make them work fast other than a far off chance of a "raise." Or perhaps a poor man, when first employed, will get a higher rate than a good man, and it is only natural that the good man will fall to the level of the poor one. In some cases a horizontal rate is used which brings about the same result.

(To be Concluded.)

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THERE are few national institutions of more value and interest to the country than the Royal Military College of Canada. Notwithstanding this, its object and the work it is accomplishing are not sufficiently understood by the general public.

The College is a Government Institution, designed primarily for the purpose of giving instructions in all branches of military science to Cadets and Officers of the Canadian Militia. In fact, it corresponds to Woolwich and Sandhurst.

The Commandant and military instructors are all officers on the active list of the Imperial army, lent for the purpose, and there is in addition a complete staff of professors for the civil subjects which form such an important part of the College course. Medical attendance is also provided.

Whilst the College is organized on a strictly military basis the cadets receive a practical and scientific training in subjects essential to a sound modern education.

The course includes a thorough grounding in Mathematics, Civil Engineering, Surveying, Physics, Chemistry, French and English.

The strict discipline maintained at the College is one of the most valuable features of the course, and in addition, the constant practice of gymnastics, drills and outdoor exercises of all kinds, ensures health and excellent physical condition.

Commissions in all branches of the Imperial service and Canadian Permanent Force are offered annually.

The diploma of graduation is considered by the authorities conducting the examination for Dominion Land Surveyor to be equivalent to a university degree, and by the Regulations of the Law Society of Ontario, it obtains the same exemptions as a B.A. degree.

The length of the course is three years in three terms of 8½ months each.

The total cost of the course, including board, uniform, instructional material and all extras is about $800.

The annual competitive examination for admission to the college, takes place in May of each year, at the headquarters of the several military districts.

For full particulars regarding this examination and for any other information, application should be made to the secretary of the Militia Council, Ottawa, Ont., or to the Commandant, Royal Military College, Kingston, Ont.

FASHION HINTS.

How wonderful are thy works, O Nature!! Students in the vicinity of the group of Science buildings were very much astonished yesterday morning by the sight of one of the most unusual facial adornments that has as yet appeared in our midst. Evidently the Science Sophomore sporting the above adornment believes in the power of the unusual, for a very carefully grown moustache of the Charlie Chaplin period adorned one half of his manly features, while the other half of the adornment was strangely absent. The part that was in evidence was of a bright blue hue, the whole having an indescribably novel and ingenious effect.

The New Form Fit BERWICK ARROW COLLARS are curve cut to fit the shoulders perfectly. 15 cents each, 6 for 90c

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WHAT'S ON.

TO-DAY.

5.00 p.m.—Year '17 meeting, Strathcona Hall.

5.00 p.m.—Union House Committee, McGill Union.

7.30 p.m.—Students' Council Meeting, McGill Union.

8.00 p.m.—Arts Smoker-Supper, McGill Union.

COMING.

March 15.—C. O. T. C. Review by Brig.-Gen. Wilson.

March 16 — Universal ballot for presidency of Students' Society, and for vice-presidency of Students' Union.

March 21—Annual meeting, Students' Society, McGill Union.

March 23—Annual meeting, Athletic Association, Track, Hockey and Football Clubs, McGill Union.

March 30.—Annual Meeting, Medical Society, New Medical Building.

Scientific Management and Efficiency

by Donald de C. Ross-Ross, '17

In this age of science and development, of effort and accomplishment, when each industrial corporation strives to outstrip its opponent by every device and science possible but one, there seems to be a great lack and little knowledge of that most necessary science — the science of management. A company may have a good, strong organization, sound finance and clever engineers; yet it will never rise to its full working capacity without a competent efficiency engineer and staff. This efficiency work is peculiarly the work of the mechanical engineer. There is waste of every description around a plant. It may not be apparent, but is nevertheless there; and it is the work of the efficiency engineer to get rid of this waste and raise the plant to its maximum efficiency.

About thirty years ago the first experiments began in this branch of science, and very little progress was made in diffusing the idea to other manufacturers. Yet much valuable information was gathered. Manufacturers seemed to have a horror of changing from the old system of management, if management it can be called, to the new system of scientific management. Of late, however, the new system has made rapid strides in the United States. We, in Canada, lag still very much behind. There are very few companies at this time in our country who are using scientific for rule-of-thumb methods. Some people put very little faith in the science of management. It was only a little while ago that, when speaking on the subject, a man said to me that certain companies here in Montreal had tried Taylor's system, had a lot of trouble, and had to give it up. The fact is that these companies get hold of a few vague points about the system; they promptly institute piece work; shove a stop-watch into the hands of an incompetent clerk, and tell him to make a time and motion study of the men. From his results, which are generally wide of the mark, he sets a piece rate which sometimes is too low, but is more often too high, which results in "cuts." "Cuts" are, perhaps the most detrimental thing to the smooth running of a factory. They cause a great deal of dissatisfaction amongst the workmen, if not a walkout. The management then complains of the system. It forgets that pithy quotation from Pope, "A little knowledge is a dangerous thing."

For example, an efficiency engineer, a friend of mine, working in Montreal, was asked to go and inspect the system of a shell shop a little outside the city. He was introduced to the man in charge of the work, who turned out to be not an engineer, but a clerk from the accounting office. After questioning the man, he found that he made his time and motion study with an ordinary watch and wrote his results on slips of paper, which he threw away when he was finished with them. An ordinary watch is next to useless where a few seconds may make a large percentage error. The result was that the workmen were earning very high wages. One man on a drill press was making as high as twelve dollars and sixty-five cents a day, whereas, prior to this job, he was making twenty-two cents an hour shoving a truck around the factory. My friend asked the clerk if he thought that it was a fair wage. The latter thought so, as the man was working on shells. The engineer could not see that, because the government was paying and required the shells, this workman should make such absurdly high rates. There are things like this that are put under the name of scientific management, that do so much harm to the progress of the true science of efficient management.

In all the plants where Taylor (the originator of Scientific Management), instituted his system, there has never been a strike. This is a record worth while keeping in mind.

There are three different methods in vogue at the present time under which work is turned out, namely, rule-of-thumb, initiative and incentive and scientific methods. Before going into the subject further it might be as well to explain and compare these methods.

Firstly we have the old rule-of-thumb idea in which the method of going at a piece of work is entirely left to the workman, and no compensation is given him for doing it in the quickest and best way. This method has nothing to recommend it, as the workman has no incentive to urge him forward to greater effort, and he will in time lose interest in his work, which means careless workmanship.

The method of initiative and incentive has more to recommend it than has rule-of-thumb. The workman, though left to his own method of approaching his work as in the first case, in the second case is given an incentive in the form of a bonus to his wages. This bonus will spur him forward to greater effort, and he will use his own initiative, which will make him take an interest in his work. The result is a better finished product as a rule, which has taken less time than it would have under the first method. Still there is something lacking. There exists no co-operation between the workman and the management.

The scientific method involves complete co-operation between the workman and the management, each sharing the duties as well as the responsibilities for which they are most adapted. The duties of the management are:

1.—The development of a science for each element of the work for the workman, whereas there is no science in the rule-of-thumb method which it replaces.

2.—The scientific selection, training development of the workman, whereas the workman in the other methods chooses his own work, for which he might be entirely unsuited.

3.—The co-operation with the workman so that the work will be done according to the principles of the science which has been developed.

In this manner we have the work and the responsibility divided between the workman and the management more or less.

Thus it stands to reason that the scientific method is superior by far to the other two. For, in the first two cases, the workman can only go at the work in the way he was taught when he was an apprentice, or has picked up, which has very little science, if any, behind it; and he has neither the time nor the ability, perhaps, to develop a science for himself. In the last case, however, the management sees that it has a man or men which have both time and ability to develop a science for every class of work in the factory. It follows then, that if better results are obtained for the same amount of effort on the part of the workman under scientific management, than under the other forms of management, the scientific must be the most efficient form; and must involve the twelve underlying principles of efficiency which Emerson enumerates as follows:—

1.—Ideals.
2.—Common Sense.
3.—Competent Counsel.
4.—Discipline.
5.—The Fair Deal.
6.—Reliable, Immediate, Adequate and Permanent Records.
7.—Despatching.
8.—Standards and Schedules.
9.—Standardized Conditions.
10.—Standardized Operations.
11.—Written Standard Practice Instruction Cards.
12.—Efficiency Reward.

In manufacturing plants in the past and also at the present, the workman tried, and still tries, to turn out as little work as possible where poor management prevails. The cause of this trouble can be accounted for more by the carelessness and ignorance of the management than it can by the laziness of the workman.

We have three kinds of restricted working, or "soldiering," and these are systematic, protective and sheer laziness soldiering. Each has its cause or causes, but the last may be ascribed to two diverse reasons.

Taking first "systematic soldiering," we find that there are two reasons for this, namely:

1.—The mistake which workmen nearly always believe in that, if the output of work is materially increased it will result in throwing out of work a large number of men. This fallacy is particularly well demonstrated when machinery began to be invented in England, especially weaving and spinning machines, which resulted in riots on the part of the working class.

2.—The introduction of piece work, which is often very good; but generally too high a rate is set at first through sheer ignorance of the time actually required for the performance of an operation. This results in "cuts" in the rate. And when one or two cuts have occurred, the men form a combine amongst each other to restrict the work so that there will be no more cuts.

"Protective soldiering" can be laid to the cause of defective management. When the work is not planned ahead, and there is a chance that he may have to stand idle while more work is found for him when he is finished what he is doing, a workman will work slowly so that none of the higher officials will see him doing nothing.

"Sheer laziness soldiering" is due to lack of interest in work on account of poor management as before, or to the lazy character of the workman himself.

These three kinds of "soldiering" are practically nil in a plant under efficient management. For, as we shall see, the time and motion study will eliminate any chance of error in setting piece rates; the planning department and instruction cards the delay in setting work and the loss of interest in it; and also the careful selection of men, those unsuited for certain work, being given work for which they are better suited, and the useless ones being weeded out from the rest.

We will now take up in detail the first, and perhaps the most prominent element in scientific management, that is, the time and motion study.

Supposing a very accurate study was to be made of a certain operation, the proceeding would be as follows:—

1.—Find a number of men, between ten and fifteen, from as many different companies and parts of the country as possible, who are particularly skilled in doing a certain class of work.

2.—Study the exact series of elementary motions which each one uses in doing the work, and also the tools, etc.

3.—With a stop-watch study the time required for each movement that each man makes.

4.—Eliminate slow, false and useless motions.

5.—From the remaining material, pick out the quickest movements and put them down in the order in which they come, thus forming a complete series for the operation under investigation.

The first step is left out where great accuracy is not required, and only a number of studies of one or more men of the same factory are made, and a mean result obtained.

These studies are made on motion study forms, and with a stop-watch; not as in the case I cited, on a piece of ordinary paper, and with an ordinary watch.

When the time and motion study is complete, and the quickest method of doing the work has been found, the next step is to fill out instruction cards. These cards carry all the data necessary for the workmen to do his work according to the quickest method which has been developed, and they are placed in the most conspicuous place to the operators who are to follow them. The efficiency engineer then instructs the foreman how to follow the cards, and he in turn must instruct the workman. We can readily see the tremendous advantage in the saving of time and energy from the motion study and instruction card scheme.

For example, supposing a man who is roughing down eighteen pound shrapnel shells on an automatic lathe, makes the following motions, and also takes the following times for those motions:—

1. 0' 5"—lift shell from floor to lathe.
2. 0' 2"—lay shell on lathe.
3. 0' 6"—take shell in both hands and put on air chuck.
4. 0' 2"—turn on air to chuck.
5. 0' 3"—start lathe.
6. 2' 15"—cutting, stopping and running back of tool to starting point automatically.
7. 0' 2"—release air in chuck.
8. 0' 7"—take shell off and place on floor.

The total time is two minutes and forty-two seconds.

Now, by glancing over the movements taken, we see that number two is an absolute waste of time, so that is crossed out; we then make one and three into a single motion taking seven seconds; we combine four and five, as the left hand can turn on the air while the right can start the lathe, eliminating the two seconds; element six is predetermined and comes under the study of the art of cutting metals; and seven and eight will unite into a five second motion. Our total is two minutes and thirty seconds, or two hundred and forty shells in ten hours, against two hundred and twenty-two which the operator was turning out. Hence the operator is only working at 92.5 per cent efficiency, due to slow and useless movements. In this particular operation the inefficiency is not very marked, as the machining itself takes about ninety per cent. of the time. If, however, we consider the efficiency of man apart from the machining, it is only 55.5 per cent.

There is then the first consideration—the economic and efficient use of physical labour, that is, with equal or less effort than originally, the employee can give greater results when taught to work efficiently. This first consideration may be paramount where labour is the greater factor; but where machining plays the greater part, the economic factor is that of cutting metals. Hence we will now turn to the study of the art of cutting metals.

During the earlier stages of scientific management, Taylor made a great many experiments, cutting up thousands and thousands of dollars' worth of metal. He gathered together a large amount of valuable information and data, but was unable to get any simple mathematical form to make the results of his experiments applicable to every day use by a machinist. Barth, however, came to his assistance, and, after many years of experimenting, he invented the slide-rule which is known by his name. The Barth slide-rule enables a machinist to answer the three questions that confront him each day:

1.—What depth of cut shall be taken?

2.—What cutting speed shall be used?

3.—What feed shall be used?

A machinist without the aid of a slide-rule can only make an approximation to what these ought to be, and at the best he may be very wide of the mark.

From his experiments, Barth found that twelve variables entered into the problem of determining the most economic way in which to remove a required amount of stock from a piece of lathe work. The esvariables are:—

1.—The size and shape of the tools to be used.

2.—The use or not of a cooling agent on the tools.

3.—The number of tools to be used at the same time.

4.—The length of time the tools are required to stand up to the work (life of tool).

5.—The hardness of the material to be turned (class number).

6.—The diameter of work.

7.—The depth of cut to be taken.

8.—The feed to be used.

9.—The cutting speed.

10.—The cutting pressure on the tool.

11.—The speed combination to give at the same time the proper cutting speed and the pressure required to take the cut.

12.—The rigidity of the work.

It is easy to see now how great the inefficiency might become in cutting metals without a slide-rule to first determine the right feed, speed and depth of cut to take. Carelessness plays also a large part in inefficiency. An example might make these points more clear.

Supposing a machinist is shaping down a piece of steel four inches wide. The tool moves three inches on one side and one inch on the other beyond the edge of the work; his stroke efficiency is only 50 per cent. He gets a dull gray chip where he might have got a "blue chip"; his cutting efficiency is, say, 40 per cent. He uses a sharp pointed tool with 1-64" feed where he should have used a round

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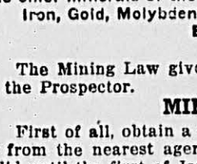

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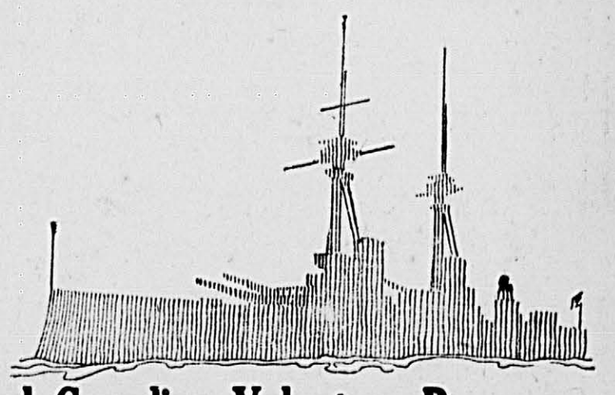

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